

REMARKS

Favorable consideration and allowance are respectfully requested for claims 1 - 11 in view of the foregoing amendments and the following remarks. The Examiner is thanked for the careful consideration of this case and the indication that claim 7 is only objected to as being dependent on a rejected base claim is acknowledged with appreciation.

Claim 1 is amended to reflect the limitations of previously-pending claims 2 and 3. Claims 4 and 6 are amended to reflect the amendments previously-submitted in particular:

Claim 4 is amended to clarify that the language in the preamble is incorporated into and made part of the claim. Specifically, the phrase "a transparent synthetic resin body composed of at least two interpenetrating polymer networks of different polymer materials and at least one photochromic dye homogeneously distributed therein" is reinserted at the end of the claim.

Claim 11 is amended to replace the phrase "during polymerization" with "simultaneously with the steps of producing a first polymer network and producing a second polymer network". Support for this amendment may be found in the specification, for instance, at least in paragraphs 13 and 14. The claim is believed to be definite and reconsideration and withdrawal of the rejection are respectfully requested.

The rejection of claim 11 under 35 U.S.C. § 112, second paragraph, as indefinite, is respectfully traversed.

Claim 4 is directed to a method of producing a resin body where at least two mutually interpenetrating polymeric networks are present recites that these networks are formed one after the other. Claim 6 depends from claim 4 and recites that the first network is formed by polyaddition and the second network by thermal, radical or UV-light initiated polymerization. Claim 11 depends from claim 6 and adds that the resin body is formed simultaneously with the steps of producing the first and the second polymer network. Thus, claim 11 adds an

express limitation not present in either of claims 4 or 6. Accordingly, it cannot be the case that claim 11 fails to further limit the process of the claims from which it depends.

For purposes of definiteness, the relevant question is whether one of skill in the art could understand the scope of the claim. The MPEP, at § 2173.02, states that:

In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. See, e.g., *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000).

In the present case, that test is clearly met, because one of skill in the art would readily understand the scope of claim 11. The body is formed as each of the polymer networks are formed. The person of skill in the art would appreciate that a body formed of two polymer networks has a shape that reflects the collective shape of both of the networks. This is in contrast to, for instance, a method where part of the shape of the body is determined after the two polymer networks have been formed. This would be the case, for instance, where there is some further shaping of the body being produced.

The recent Advisory Action alleges that the method requires forming first and second polymer networks by polyaddition and by either thermal, radical or UV light polymerization. However, the clear language of claim 6 indicates that the first polymer network is formed by polyaddition, and the second polymer network is formed by thermal, radical or UV light polymerization. Thus, it is not the case that the method involves forming “first and second polymer networks by polyaddition and by either thermal, radical or UV light polymerization”. This is clear from the language of the claim itself. Applicants note, in this regard, that claim 6 has not been rejected as indefinite. There is nothing about claim 11 that renders this part of the method indefinite, and accordingly, the rejection of claim

11 as indefinite cannot be properly maintained. One of skill in the art would have no trouble in determining whether or not some activity constitutes infringement of this claim. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

The rejection of claims 1-6, 8-10 and recently-submitted claim 11 under 35 U.S.C. § 103(a), as obvious over Sommerfeld, is respectfully traversed.

The present invention relates to photochromic plastic objects and methods of forming photochromic plastic objects composed of at least two interpenetrating polymer networks and at least one photochromic dye *homogeneously distributed* therein.

Sommerfeld does not disclose or suggest an object with a photochromic dye distributed homogeneously throughout two interpenetrating networks. At least one of the interpenetrating polymer networks disclosed by Sommerfeld *must* be formed by polymerization in a solvent (see, for instance, the abstract of Sommerfeld, stating “[a]t least one of the polymer networks is formed by polymerization in a solvent”; see also the summary of the invention stating: “at least two polymer networks . . . with the proviso that at least one of the polymer networks is formed by polymerization in a solvent” Because a solvent is used in the polymerization, the technique of Sommerfeld would not result in a homogenous distribution of photochromic dye.

The Office Action indicates that Sommerfeld discloses removing the solvent prior to using the formed polymeric network composition. The Office Action also indicates that the claims do not recite forming a polymer network without a solvent, and that claim 4 might also include forming a polymer network with a solvent followed by its subsequent removal. The thought appears to be that the dye may be added after the polymer network is formed.

Applicants respectfully submit that once a polymer network is formed, it is impossible to homogeneously distribute any dye throughout the network. The dye must be present before the mixture is formed into a polymeric network so that

the dye may be mixed in. After these steps, the polymeric network may be formed and the dye is homogenously distributed throughout the network.

If a solvent is used during the polymerization, and the solvent is later removed, and then a dye added, the dye will not and cannot be homogenously distributed throughout the network. The physical structure of the already-formed network will prevent the dye from penetrating. If, instead, the dye is added before the solvent is removed, the dye will remain dissolved in the solvent. Because the dye remains dissolved in the solvent it does not form part of the polymerized resin body. Further, if the solvent is removed, as appears to be described by Sommerfeld, (col. 13, lines 36-48), the dye will also be removed with the solvent. The dye will not, therefore, be homogenously distributed throughout the network at the end of the polymerization process.

Still further, the section relied on in the Office Action of July 17, 2006, col. 13, lines 17-45, relates to liquid dispersions that are useful as coatings (lines 17-35) and to residues from the removal of organic liquids (solvents) (lines 36-48). These two paragraphs appear to be mutually exclusive. In the former, the liquid dispersion is provided with a pigment and as the liquid dispersion dries an coating is formed. In the latter, the residues are used to make films for semi-permeable membranes, for instance.

These methods will not form a transparent synthetic body with the two interpenetrating polymer networks having a photochromic dye homogenously distributed therein, as is presently claimed. Because the reference fails to teach each and every element of the claimed invention, reconsideration and withdrawal of the obviousness rejection are respectfully requested.

CONCLUSION


In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

Although a petition for an Extension of Time is submitted herewith if necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #100341.52572US).

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Christopher McWhinney", written over a horizontal line.

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